

DODDER, A PARASITIC PLANT PEST

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Dodder (*Cuscuta* spp.), which lacks chlorophyll and leaves, is one of the genera of higher plants which parasitize other plants. It is incapable of producing its own food and hence is completely dependent upon its host plants for survival. Like other higher plants, however, dodder reproduces by seeds (1).

Seed of dodder is gray to red brown with three flattened sides. As many as 3000 seeds may be produced by a single plant. Upon germination, an unbranched yellow thread emerges and grows in a rotating manner. This twining action aids the seedling in making contact with a potential plant host. If it contacts a host plant it produces suckers (haustoria) and the original contact with the soil dries up. The haustoria penetrate the host stem or leaf tissues and absorb food and water. If the dodder seedling does not establish contact with a host, it dies within a few weeks after germination as its food reserves are depleted (3). Established plants enlarge and spread from host plant to host plant, eventually forming a tangle of orange tendrils (Fig. 1), which may kill or stunt the host as a result of nutrient deprivation. A single plant may eventually produce a circle of infestation up to 10 feet in diameter. During the summer, dodder produces masses of white, pink, or yellow flowers which soon form seed. The seeds overwinter in infested field soils. If dodder is infesting a crop plant its seeds are often mixed with the seed of crop plants upon harvesting. The seed may be spread by animals, water, and farm machinery or, as mentioned, with crop seed.



Figure 1. *Cuscuta* (dodder) on pepper plants showing leafless yellow tendrils.

Cuscuta spp. may be confused with *Cassytha filiformis* L. (Woe-vine) (2). The latter, however, is a perennial whereas *Cuscuta* is an annual. *Cassytha filiformis* parasitizes mainly woody plants. With the exception of *Cuscuta exaltata*, dodder usually parasitizes herbaceous plants.

CONTROL: Planting dodder-contaminated seed should be avoided. Several states and the federal government have regulations against the importation and/or sale of infested seed.

Unfortunately, no selective herbicide to control dodder alone is available (4). Therefore, the dodder must be killed before it infects a host. Controlling weeds between rows is important. These weeds may act as "bridges" between infected and non-infected plants. In plant pathology research, dodder is also used as a bridge to intentionally spread viruses from plant to plant.

Recommendations for specific pre- and post-emergence herbicides may be obtained from the Agricultural Extension Office.

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SURVEY AND DETECTION: Look for tangles of orange tendrils covering host plants. Common along roadsides.

LITERATURE CITED

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Contribution No. 656, Bureau of Plant Pathology